Introduction

Malignancy is surprisingly common, developing at sometime in the life of more than one third of the population and it is the second most common cause of death in the world, after cardiovascular diseases. There is however significant variation with age, sex and geography in the incidence of the various types, as well as in the resources available for detection and treatment. Amongst the most common solid tumours, such as lung and breast cancer, the incidence is often higher in the developed world.

The major categories of cancer are: (a) Carcinomas, which arise from epithelial cells lining the internal surfaces of the various organs (e.g. mouth, oesophagus, intestines, uterus) and from the skin epithelium; (b) Sarcomas, which arise from mesodermal cells constituting the various connective tissues (e.g. fibrous tissue, fat and bone); and (c) Lymphomas, myeloma and leukaemias arising from the cells of bone marrow and immune systems.

There are wide variations in the distribution of cancer throughout the world. The International variations in the pattern of cancer are attributed to multiple factors such as environmental factors, food habits, life style and genetic factors.

Cancer afflicts all communities worldwide. Approximately 10 million people are diagnosed with cancer and more than 6 million die of this disease every year. About 22.4 million persons were living with cancer in the year 2000(**WHO** 2003). This represents an increase of around 19 percent in incidence and 18 percent in mortality since 1990(**WHO** 2008).

In terms of incidence, the most common cancers worldwide are lung cancer (12.3 per cent of all cancers), breast cancer (10.4 per cent) and colorectal cancer (9.4 per cent). For any disease, the relationship of incidence to mortality is an indication of prognosis. Similarly incidence and mortality rates being indicative of an essentially fatal condition. Thus, lung cancer accounts for most

deaths from cancer in the world (1.1 million) annually, since it is most invariably associated with poor prognosis. On the other hand, appropriate intervention is often effective in avoiding fatal outcome following diagnosis of breast cancer. Hence, this particular cancer, which rank second in terms of incidence, is not among the top three causes of death from cancer, which are respectively cancers of the lung, stomach, and liver.

The four most frequent cancers in males in India are mouth/oropharynx, oesophagus, stomach and lower respiratory tract (trachea/bronchus/lungs). For women, cancers of the cervix, breast, mouth/oropharynx and oesophagus are the most frequent. A number of these cancers are highly amenable to primary and secondary prevention. Tobacco, which is widely used in India, is a major cause of cancer of the upper digestive and respiratory tract. It is estimated that 91 per cent of oral cancers are directly related to the use of tobacco.

As with other chronic diseases, cancer too has a multifactorial aetiology. As mentioned earlier cancer remains the second important cause of death after coronary heart disease. The precise trigger for the disease is not well understood but the process by which cancer spreads is straightforward. Certain cells in the body become altered and multiply rapidly and in an uncontrolled fashion. Although the processes involved in the spread of cancer are physiological in nature, accumulating evidence suggests that the emotional response of cancer patients to their disease may have a critical effect on its course (Pettingale et al. 1985). In the case of cancer, it is possible that positive emotional responses will produce natural killer cells that help to control the size and spread of cancerous tumours.

Relaxation techniques can also reduce tension, depression and anxiety; yet few cancer treatment programmes use these techniques on a regular basis.

Relaxation therapy reduced symptoms of anxiety more than it did with any other side effects, regardless of the type of cancer treatment given to the patient.

Studies related to effectiveness of psychological interventions in cancer are very few in India. Some of the study reports from abroad, give a promising result that psychological interventions will be useful as an adjunct to the existing modes of treatment.

From clinical experience, it is found that psychological interventions would help for a better prognosis in cancer patients undergoing standard treatment procedures mentioned earlier. In addition, it would be a milestone in the pain and palliative treatment.

In this study an effort is made to assess the stress, anxiety, depression, subjective wellbeing and physical symptoms of the cancer patients in the control group, and experimental group. Also, to assess the change in these variables after the psychological intervention package comprising of health education, counseling and guided somato psychic relaxation. Also, an effort is made to find out in a relationship between selected demographic variables such as age, sex, marital status, religion and personal habits of the cancer patients and also on the types of cancers, for the effect of psychological intervention. Cancers of the Head and neck, alimentary tract, breast, and lungs are included for the study.

TITLE OF THE STUDY

'Effectiveness of Psychological intervention in the management of cancer patients.'

OBJECTIVES OF THE STUDY

The following objectives were formulated for the study.

1. To study the effectiveness of a psychological intervention package in the management of cancer patients.
2. To study the stress of cancer patients before and after the psychological intervention programme and to compare with the control group.
3. To study the anxiety of cancer patients before and after the psychological intervention programme and to compare with the control group.

4. To study the depression of cancer patients before and after the Psychological intervention programme and to compare with the control group.
5. To study the subjective well being of cancer patients before and after the psychological intervention programme and to compare with the control group.
6. To study the physical symptoms of cancer patients before and after the psychological intervention programme and to compare with the control group.
7. To study the selected socio demographic variables of cancer patients with relation to stress. (Age, Sex, Martial status, Religion, Diet, Personal habits)
8. To study the selected socio demographic variables of cancer patients in relation to anxiety. (Age, Sex, Martial status, Religion, Diet, Personal habits)
9. To study the selected socio demographic variables of cancer patients in relation to depression. (Age, Sex, Martial status, Religion, Diet, Personal habits)
10. To study the selected socio demographic variables of cancer patients in relation to subjective wellbeing. (Age, Sex, Martial status, Religion, Diet, Personal habits)
11. To study the effectiveness of psychological intervention programme in different types of cancer patients.
12. To study the role of selected socio demographic variables on psychological intervention in cancer patients.

NULL HYPOTHESES

1. There will not be any significant difference in the stress of cancer patients before and after psychological intervention.
2. There will not be any significant difference in the anxiety of cancer patients before and after psychological intervention.
3. There will not be any significant difference in the depression of cancer patients before and after psychological intervention.

4. There will not be any significant difference in the subjective wellbeing of cancer patients before and after psychological intervention.
5. There will not be any significant difference in the physical symptoms of cancer patients before and after psychological intervention.
6. There will not be any significant difference in the stress of cancer patients with and without psychological intervention.
7. There will not be any significant difference in the anxiety of cancer patients with and without psychological intervention.
8. There will not be any significant difference in the depression of cancer patients with and without psychological intervention.
9. There will not be any significant difference in the subjective wellbeing of cancer patients with and without psychological intervention.
10. There will not be any significant difference in the physical symptoms of cancer patients with and without psychological intervention.
11. There will not be any significant difference in the stress among different types of cancer patients (Head and Neck Cancers, Gastro intestinal Cancers, Breast Cancer, Lung Cancer).
12. There will not be any significant difference in the anxiety among different types of cancer patients (Head and Neck Cancers, Gastro intestinal Cancers, Breast Cancer, Lung Cancer).
13. There will not be any significant difference in the depression among different types of cancer patients (Head and Neck Cancers, Gastro intestinal Cancers, Breast Cancer, Lung Cancer).
14. There will not be any significant difference in the subjective wellbeing among different types of cancer patients (Head and Neck Cancers, Gastro intestinal Cancers, Breast Cancer, Lung Cancer).

15. There will not be any significant difference in the physical symptoms among different types of cancer patients (Head and Neck Cancers, Gastro intestinal Cancers, Breast Cancer, Lung Cancer).
16. There will not be any significant difference in the stress among different types of cancer patients before and after psychological intervention.
17. There will not be any significant difference in the anxiety among different types of cancer patients before and after psychological intervention.
18. There will not be any significant difference in the depression among different types of cancer patients before and after psychological intervention.
19. There will not be any significant difference in the subjective wellbeing among different types of cancer patients before and after psychological intervention.
20. There will not be any significant difference in the physical symptoms among different types of cancer patients before and after psychological intervention.
21. There will not be any significant difference in the stress of cancer patients with respect to selected socio demographic variables (Age, Sex, Martial status, Religion, Diet, Personal habits.)
22. There will not be any significant difference in the anxiety of cancer patients with respect to selected socio demographic variables (Age, Sex, Martial status, Religion, Diet, Personal habits.)
23. There will not be any significant difference in the depression of cancer with respect to selected socio demographic variables (Age, Sex, Martial status, Religion, Diet, Personal habits.)
24. There will not be any significant difference in the subjective wellbeing of cancer patients with respect to selected socio demographic variables (Age, Sex, Martial status, Religion, Diet, Personal habits.)

25. There will not be any significant difference in the physical symptoms of cancer patients with respect to selected socio demographic variables (Age, Sex, Martial status, Religion, Diet, Personal habits.)

METHODOLOGY

This was an intervention study with experimental design pre test-post test-delayed post test design. The pre test assessment of the different variable were made by using standard tools for both the control and experimental groups. The psychological intervention package in the form of health education, counseling and relaxation was administered to the experimental group of cancer patients. Psychological intervention package was not administered to the control group. Patients in both control and experimental groups were followed up at the end of first month and third month and assessment was made using the same standard tools.

Sample

Sample for the study was cancer patients. Newly detected and current cases undergoing treatment, patients who have completed various modalities of treatment for cancer like surgery, radiotherapy, chemotherapy and patients under palliative care were included as the sample study. The patients in the age group 35 years to 65 years were chosen as sample.

There were 70 patients in the control group and 75 patients in the experimental group. Of the control group 6 patients discontinued and 4 patients died. In the experimental group 1 patient died and 2 discontinued. Finally, there were 60 patients in the control group and 72 patients in the experimental group.

The sample was constituted by a total number of 132. Of this, 60 patients were taken as the control group and 72 patients were taken as the experimental group. Patients selected for this study were categorized into four broad

categories, as Head and Neck cancers, cancers of Gastrointestinal tract, cancer breast and cancer lung. Both males and females are included in the study as experimental and control group of the sample.

Pre-post test design was used for this study.

TOOLS

The investigator used the following tools to collect data

1. Stress Check List (SCL):- Alice P Mathew (1996), Mahatma Gandhi University, Kottayam.
2. State – Trait Anxiety Inventory (STAI) – Malayan version, Das and Kumar (1994).
3. Depression Inventory (DI) :- Malayalam- K.A Kumar and S.Vinod kumar(2000) School of Behavioural Sciences, Mahatma Gandhi University, Kottayam)
4. Subjective Well-being Inventory (SWBI):- Adopted and modified version of Sell and Nagpal by Suhany. BT and Sam Sanand Raj.H (2002), University of Kerala.
5. Check list of Physical Symptoms of the patient (PSCL) Prepared by the investigator (2004).
6. Personal Data Sheet (PDS) – Prepared by the investigator (2004).
7. Psychological Intervention Package (PIP) – Developed by the investigator (2004) consisted of the following.
   a. Health Education Brochure (HEB) prepared by the investigator (2004).
   b. Guided Somato Psychic Relaxation – with the help of Audio tape (GSPR) – developed by Sreedhar K. P. (1996) of Kerala University.
   c. Counseling: Done by a clinical psychologist or a trained counselor.

PROCEDURE

After taking the case history and arriving at the diagnosis and recording the responses in the personal data sheet and the different tools to measure stress, anxiety, depression, subjective wellbeing and physical symptoms; the client was told about the steps involved in the treatment. Written consent in printed proforma was obtained from the individual patients of the sample included in the study. The investigator explained about the programme to the patients. In the entries were made in the personal data sheet by the nurse of the center the printed tools were given to the patients and the responses were recorded by them. After this counseling and GSPR were administered to the patient at the center. Printed health education material was given to the patients with instruction to read it. The family members were also instructed to help and encourage the patients to do the relaxation at home. For which pre-recorded audio cassette was supplied by the investigator free of charges with direction to return the same after use. The patients were instructed to do the relaxation at home daily for three weeks. Printed response sheets for marking the relaxation done at home were given to the patients in the experimental group.

The client is further told that one-step in the process is a procedure called ‘relaxation training’. In this, the client is requested to lie down on a comfortable cot in a supine position with the head slightly raised with the help of a pillow. The client is further informed that the relaxation has both a physical and a mental stage. The person is also told that in the physical stage there are ten steps to be followed. The counselor teaches the client these steps. At the mental stage, there is visualization of a pond. The visualization in the state of mental relaxation will also be described. The client is given time to clarify doubts, if any. If there are no doubts, the procedure starts. The counselor sits slightly behind the client on one side of the cot to have an overall view of the client. Then the instructions are given slowly and softly. The instructions was given by the counselor using the pre recorded audio cassette.

Individual counseling was given to each patient at the centre and later one follow up counseling with in the first month after collecting the data in the prescribed proforma. Counseling included problems related to the physical, psycho social, personal habits and treatment related problems and wellbeing of the individual. Care and support of the patient by the family also was looked into.

STATISTICAL ANALYSIS OF THE DATA

The data collected was scored as per the manuals. With the support of an expert using approved statistical software the data was compiled and analyzed by standard and approved statistical tools. The sample comprised of four different types of cancer patients, five different variables for study; namely stress, anxiety, depression, subjective well being and physical symptoms, pre test, post test and delayed post test for the experimental groups and follow up at the end of first month and third month. Hence, the statistical tools used were one way ANOVA, repeated ANOVA, analysis of covariance(ANCOVA) and Multivariate analysis of variance (MANOVA).

RESULTS

After perusing the results obtained, interpretation was done.

1. There was significant difference in the stress of cancer patients before and after psychological intervention.
2. There was no significant difference in the anxiety of cancer patients before and after psychological intervention.
3. There was significant difference in the depression of cancer patients before and after psychological intervention.
4. There was significant improvement in the subjective wellbeing of cancer patients before and after psychological intervention.

5. There was significant improvement in the physical symptoms of cancer patients before and after psychological intervention.
6. There was significant difference in the stress of cancer patients with psychological intervention and no significant difference without psychological intervention.
7. There was no significant difference in the anxiety of cancer patients with and without psychological intervention.
8. There was significant difference in the depression of cancer patients with psychological intervention and no significant difference without psychological intervention.
9. There was significant improvement in the subjective wellbeing of cancer patients with psychological intervention and no significant difference without psychological intervention.
10. There was significant difference in the physical symptoms of cancer patients with psychological intervention and no significant difference without psychological intervention.
11. There was no significant difference in the stress among different types of cancer patients (Head and Neck Cancers, Gastro intestinal Cancers, Breast Cancer, Lung Cancer).
12. There was no significant difference in the anxiety among different types of cancer patients (Head and Neck Cancers, Gastro intestinal Cancers, Breast Cancer, Lung Cancer).
13. There was no significant difference in the depression among different types of cancer patients (Head and Neck Cancers, Gastro intestinal Cancers, Breast Cancer, Lung Cancer).
14. There was no significant difference in the subjective wellbeing among different types of cancer patients (Head and Neck Cancers, Gastro intestinal Cancers, Breast Cancer, Lung Cancer).

15. There was no any significant difference in the physical symptoms among different types of cancer patients (Head and Neck Cancers, Gastro intestinal Cancers, Breast Cancer, Lung Cancer).
16. There was significant difference in the stress among different types of cancer patients before and after psychological intervention.
17. There was significant difference in the anxiety among different types of cancer patients before and after psychological intervention.
18. There was significant difference in the depression among different types of cancer patients before and after psychological intervention.
19. There was significant difference in the subjective wellbeing among different types of cancer patients before and after psychological intervention.
20. There was significant difference in the physical symptoms among different types of cancer patients before and after psychological intervention.
21. There was no significant difference in the stress of cancer patients with respect to selected socio demographic variables (Age, Sex, Martial status, Religion, Diet, Personal habits.)
22. There was no significant difference in the anxiety of cancer patients with respect to selected socio demographic variables (Age, Sex, Martial status, Religion, Diet, Personal habits.)
23. There was no significant difference in the depression of cancer with respect to selected socio demographic variables (Age, Sex, Martial status, Religion, Diet, Personal habits.)
24. There was no significant difference in the subjective wellbeing of cancer patients with respect to selected socio demographic variables (Age, Sex, Martial status, Religion, Diet, Personal habits.)
25. There was no significant difference in the physical symptoms of cancer patients with respect to selected socio demographic variables (Age, Sex, Martial status, Religion, Diet, Personal habits.)

FINDINGS OF THE STUDY

1. The Stress experienced by the cancer patients in the experimental group was found reduced due to the psychological intervention programme and hence it was effective.
2. The State anxiety, Trait anxiety and Total anxiety experienced by the cancer patients in the experimental group was not reduced due to the psychological intervention programme and hence it was not effective.
3. The Depression experienced by the cancer patients in the experimental group was found reduced due to the psychological intervention programme and hence it was effective.
4. The Subjective wellbeing experienced by the cancer patients in the experimental group was found reduced due to the psychological intervention programme and hence the intervention was effective.
5. The physical Symptoms experienced by the cancer patients in the experimental group were found reduced and the psychological intervention programme and hence it was effective.
6. The different types of cancers did not have any influence in the outcome of the effectiveness of the psychological intervention programme.
7. The different demographic variables namely age, sex, martial status, religion, diet and personal habits did not show any influence in the outcome of the psychological intervention programme.
8. The psychological intervention programme was effective in reducing stress, depression and physical symptoms and in improving subjective wellbeing of the cancer patients who received the psychological intervention.
9. The patients in the control group did not have the same results compared in to the experimental group.
10. Hence, it can be concluded that the psychological intervention programme was effective for the cancer patients who received it.

LIMITATIONS OF THE STUDY

1) This study was conducted at District Hospital Palakkad and the Institute of Palliative Care Thrissur. The number of patients at Palakkad, who participated in the study, were less. This is because of low attendance of patients at District Hospital Palakkad. At the Institute of Palliative Care Thrissur, large numbers of patients were attending everyday. Hence, there were more patients in the control and sixty in the experimental group.
2) Even though there were 70 patients in the control group and 75 patients in the experimental group, six patients discontinued and four patients died at Palakkad; one patient died and two patient discontinued. Hence, there were only 60 patients in the control group and 72 patients in the experimental group to complete the study.
3) The study was limited to patients from Palakkad and Thrissur.
4) The patients who were willing to undergo relaxation, but due to lack of audio player for doing relaxation at home were excluded from the experimental group.
5) Since the package of the psychological intervention had three components, namely health education counseling and GSPR the investigator was not in a position to conclude the effectiveness of each component.

SCOPE AND SUGGESTIONS FOR FURTHER RESEARCH

1) Studies using psychological intervention may be conducted on cancers of other body systems.
2) Studies using individual component of the psychological intervention package may be done to understand which is more effective.
3) The effectiveness of different relaxation techniques can be studied among cancer patients.
4) Psychological intervention can be conducted among palliative care patients of different types of cancers.

5) Studies may be conducted using different types of relaxation techniques.
6) Studies may be conducted using Cognitive behavioural therapy.
7) Studies may conducted using music therapy for relaxation in cancer patients.
8) Psychological intervention and quality of life of cancer patients is an area of future research.
9) The effectiveness of counseling and relaxation can be studied among the cancer patients undergoing Radio therapy and chemotherapy.

CONCLUSION

An intervention study on the effectiveness of psychological intervention in the management of cancer patients was done on a sample of 132 cancer patients. Of which sixty patients were in the control group and seventy-two patients were in the experimental group. The age group was between 35 to 65 years. Four different groups of cancers namely head and neck cancers, gastro intestinal tract cancers, breast cancers and lung cancers were selected for the study. Stress and anxiety, depression, subjective wellbeing, physical symptoms and demographic variables like age, sex, marital status, religion, diet and personal habits were the variables selected. In addition, an effort is made to study the difference if any among the different types of cancers on these variables. Study on the effectiveness of the intervention was done by using case control study with pre test-post test-control design. Psychological intervention was given to the experimental group and was not given to the control group. Follow up was made at the end of one month and third month for both the experimental and control groups. Responses of the patients were collected using standardized tools. The data collected was scored and was subjected to statistical analysis. The statistical techniques used were repeated ANOVA, ANCOVA and MANOVA. The results obtained were interpreted with reference to related studies. Comparison was made between the control and experimental group and also between pre test-post test-and delayed post test groups. It is found that the psychological intervention

package was found as effective in reducing the stress, depression, and physical symptoms and improving the subjective well being of cancer patients. However, there was no significant effect of intervention package in reducing the anxiety of the cancer patients. This opens new avenues for further research.

* * * * * * * * *